## PALM INTRANET

# Inventor Information for 10/272929

| Inventor Name | City | State/Country |
|---|---|---|
| BEAUREGARD, MARC | TROIS-RIVIERES | CANADA |
| GAGNON, MYLENE-CLAUDE | TROIS-RIVIERES | CANADA |
| DOUCET, ALAIN | L'ANCIENNE-LORETTE | CANADA |
| WILLIAMS, MARTIN | CHARNY | CANADA |

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**PALM INTRANET**

## Application Number Information

Application Number: **10/272929**
**Assignments**

Examiner Number: **77509 / WOITACH, JOSEPH**

Filing or 371(c) Date: **10/18/2002**

Group Art Unit: **1632**    **IFW IMAGE**

Effective Date: **10/18/2002**

Class/Subclass:
**514/044.000**

Application Received: **10/18/2002**

Lost Case: **NO**

Waiting for Response
Desc.

Pat. Num./Pub. Num: **/20030118573**

Interference Number:

**Mail Non Final**

Issue Date: **00/00/0000**

Unmatched Petition: **NO**

Date of Abandonment: **00/00/0000**

L&R Code: Secrecy Code:**1**

Attorney Docket Number: **15493-1US
PM/MG/al**

Third Level Review: **NO**

Secrecy Order: **NO**

Status: **41 /NON FINAL ACTION MAILED**

Status Date: **05/18/2006**

Confirmation Number: **2858**

Oral Hearing: **NO**

Title of Invention: **MB-1 ANALOGS AND USES THEREOF**

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## Inventor Name Search Result

Your Search was:

Last Name = BEAUREGARD
First Name = MARC

| Application# | Patent# | Status | Date Filed | Title | Inventor Name |
|---|---|---|---|---|---|
| 09037948 | Not Issued | 161 | 03/10/1998 | GENETICALLY ENGINEERED RUMEN BACTERIAL STRAINS | BEAUREGARD, MARC |
| 09810520 | 6958992 | 150 | 03/16/2001 | REGISTERING AN IP PHONE WITH AN IP PHONE SWITCH | BEAUREGARD, MARC |
| 10272929 | Not Issued | 41 | 10/18/2002 | MB-1 analogs and uses thereof | BEAUREGARD, MARC |
| 10625882 | Not Issued | 71 | 07/24/2003 | MB-1 analogs and uses thereof | BEAUREGARD, MARC |
| 10776180 | Not Issued | 71 | 02/12/2004 | Method of mutagenic chain reaction | BEAUREGARD, MARC |
| 11110069 | Not Issued | 30 | 04/20/2005 | Registering an IP phone with an IP phone switch | BEAUREGARD, MARC |
| 11394281 | Not Issued | 20 | 03/31/2006 | System and method for scanning communications according to a policy | BEAUREGARD, MARC |
| 60329759 | Not Issued | 159 | 10/18/2001 | MB-1 analogs and uses thereof | BEAUREGARD, MARC |
| 60446518 | Not Issued | 159 | 02/12/2003 | Method of mutagenic chain reaction | BEAUREGARD, MARC |
| 10306634 | Not Issued | 61 | 11/27/2002 | Expandable skin for safety restraint system | BEAUREGARD, MARC P. |
| 60278909 | Not Issued | 159 | 03/26/2001 | Vehicle subfloor incorporating a ventilation system | BEAUREGARD, MARC P. |

## Inventor Search Completed: No Records to Display.

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☐ 1: Khoudi H, Beauregard M.                    Related Articles, Links

The de novo designed nutritive protein MB-1Trp does not resist proteolytic degradation in alfalfa leaves.
Plant Physiol Biochem. 2005 Dec;43(12):1039-43. Epub 2005 Dec 13.
PMID: 16386425 [PubMed - indexed for MEDLINE]

☐ 2: Carbonare CB, Carbonare SB, Carneiro-Sampaio MM.        Related Articles, Links

Early acquisition of serum and saliva antibodies reactive to enteropathogenic Escherichia coli virulence-associated proteins by infants living in an endemic area.
Pediatr Allergy Immunol. 2003 Jun;14(3):222-8.
PMID: 12787303 [PubMed - indexed for MEDLINE]

☐ 3: de Souza Campos Fernandes RC, Quintana Flores VM, Medina-    Related Articles, Links
Acosta E.

Prevalent transfer of human colostral IgA antibody activity for the enteropathogenic Escherichia coli bundle-forming pilus structural repeating subunit A in neonates.
Diagn Microbiol Infect Dis. 2002 Dec;44(4):331-6.
PMID: 12543537 [PubMed - indexed for MEDLINE]

☐ 4: Xue HH, Kovanen PE, Pise-Masison CA, Berg M, Radovich MF,    Related Articles, Links
Brady JN, Leonard WJ.

IL-2 negatively regulates IL-7 receptor alpha chain expression in activated T lymphocytes.
Proc Natl Acad Sci U S A. 2002 Oct 15;99(21):13759-64. Epub 2002 Sep 27.
PMID: 12354940 [PubMed - indexed for MEDLINE]

☐ 5: Moore SA, Kingston RL, Loomes KM, Hernell O, Blackberg L,    Related Articles, Links
Baker HM, Baker EN.

The structure of truncated recombinant human bile salt-stimulated lipase reveals bile salt-independent conformational flexibility at the active-site loop and provides insights into heparin binding.
J Mol Biol. 2001 Sep 21;312(3):511-23.
PMID: 11563913 [PubMed - indexed for MEDLINE]

☐ 6: Campagna S, Cosette P, Molle G, Gaillard JL.        Related Articles, Links

Evidence for membrane affinity of the C-terminal domain of bovine milk PP3 component.
Biochim Biophys Acta. 2001 Aug 6;1513(2):217-22.

PMID: 11470093 [PubMed - indexed for MEDLINE]

☐ 7: Dopfer D, Nederbragt H, Almeida RA, Gaastra W.    Related Articles, Links

Studies about the mechanism of internalization by mammary epithelial cells of Escherichia coli isolated from persistent bovine mastitis.
Vet Microbiol. 2001 Jun 6;80(3):285-96.
PMID: 11337144 [PubMed - indexed for MEDLINE]

☐ 8: Gagnon MC, Williams M, Doucet A, Beauregard M.    Related Articles, Links

Replacement of tyr62 by trp in the designer protein milk bundle-1 results in significant improvement of conformational stability.
FEBS Lett. 2000 Nov 3;484(2):144-8.
PMID: 11068049 [PubMed - indexed for MEDLINE]

☐ 9: Alexander J, del Guercio MF, Maewal A, Qiao L, Fikes J, Chesnut    Related Articles, Links
RW, Paulson J, Bundle DR, DeFrees S, Sette A.

Linear PADRE T helper epitope and carbohydrate B cell epitope conjugates induce specific high titer IgG antibody responses.
J Immunol. 2000 Feb 1;164(3):1625-33.
PMID: 10640784 [PubMed - indexed for MEDLINE]

☐ 10: Grundy J, Morrison JJ, MacCallum JD, Wirtanen L, Beauregard    Related Articles, Links
M.

Crystallization and stabilization of MB-1, a de novo designed protein for optimized feeding technology.
J Biotechnol. 1998 Jul 30;63(1):9-15.
PMID: 9764479 [PubMed - indexed for MEDLINE]

☐ 11: Grundy JE, Wirtanen LY, Beauregard M.    Related Articles, Links

Addition of a poly-(6X) His tag to Milk Bundle-1 and purification using immobilized metal-affinity chromatography.
Protein Expr Purif. 1998 Jun;13(1):61-6.
PMID: 9631516 [PubMed - indexed for MEDLINE]

☐ 12: Delneri MT, Carbonare SB, Silva ML, Palmeira P, Carneiro-    Related Articles, Links
Sampaio MM.

Inhibition of enteropathogenic Escherichia coli adhesion to HEp-2 cells by colostrum and milk from mothers delivering low-birth-weight neonates.
Eur J Pediatr. 1997 Jun;156(6):493-8.
PMID: 9208250 [PubMed - indexed for MEDLINE]

☐ 13: Damsky CH, Sheffield JB, Tuszynski GP, Warren L.    Related Articles, Links

Is there a role for actin in virus budding?
J Cell Biol. 1977 Nov;75(2 Pt 1):593-605.
PMID: 233748 [PubMed - indexed for MEDLINE]

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[0118] Design Strategy

[0119] The putative modifications to MB-1 structure are illustrated in FIG. 7.
The design strategy used here focused on two aspects: 1--the restrictive effect
of a covalent bond between remote residues on the protein as a whole; and
2--the precise location of Cys which permits disulfide bridge formation. By
choosing positions as far apart as possible, one can reduce the entropy gain
upon unfolding for most of the protein. Thus, insertion of a bridge between
helices I and IV would enclose a larger part of the polypolypeptide than a
bridge involving other helices. Another consideration for using helix I is
that this MB-1 segment of sequence is sensitive to proteolytic degradation.
The restriction of helix I by Cys insertion could help prevent such a
phenomenon.

[0120] The position of Cys in helices I and IV must allow sulfhydryl groups to
be properly aligned in order to minimise strain induced by bridge formation.
On the basis of geometric models built for similar proteins, it appeared that
position "d" of the heptad pattern used for MB-1 design would offer the best
geometry for bridge formation. Therefore, L13 and M87 residues were selected
for mutation to Cys. FIG. 7 depicts the expected location of the bridge in the
mutant (hereafter referred to as MB-1LH, assuming it folds as per design).
Note that for proper alignment of position "d" in helices I and IV, a left-hand
connectivity of the helices had to be assumed (i.e. the bundles are positioned
such that when helix I is at the fore front, with its N-terminus pointing down,
then helix II is placed to the left of helix I). A second scenario was
considered, in which a right-hand connectivity could be specified. Examination
of the second model in FIG. 7 suggests mutations at positions "a" in helices I
and IV, since positions "d" would be too far apart. By choosing M10

and L91
residues for mutation to Cys, we attempted to generate a mutant (named MB-1RH)
that would resemble MB-1LH as much as possible, except for reversing its
connectivity.

[0121] Disulfide bridges was also inserted into MB-1Trp.  This protein is a
derivative of MB-1 where Tyr62 was replaced by Trp.  Position 62 in MB-1 was
chosen for the emplacement of a spectroscopic probe at the moment of initial
design.  As shown on the model in FIG. 1, position 62 is part of the
hydrophobic core, and a niche made of 5 Ala was built around it in order to
accommodate a larger side chain in this region of the core.  The replacement of
Tyr by Trp was thought to improve on stability, and indeed, characterisation of
MB-1Trp confirmed the strategy.  MB-1Trp has a melting temperature of
55.degree.  C. and is more resistant to protease action than MB-1.  Here we are
going to use MB-1Trp because of the increase in bulk offered by Trp in the
core, in a way to compensate for the loss of volume consequent to the mutations
used for bridge insertion.

# EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
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| L1 | 2 | "20040198681".pn. | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:05 |
| L2 | 2 | "20040198681".pn. and MB | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:14 |
| L3 | 4 | "20040198681".pn. or "20030118573".pn. | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:26 |
| L4 | 58237 | MB- or (milk adj1 bundle) | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:27 |
| L5 | 58237 | (MB- or mb) or (milk adj1 bundle) | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:27 |
| L6 | 410 | (MB-1) or (milk adj1 bundle) | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:27 |
| L7 | 4 | (milk adj1 bundle) | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:28 |
| L8 | 409 | mb-1 | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:28 |
| L9 | 32 | mb-1 and milk | US-PGPUB; USPAT; EPO; DERWENT | OR | OFF | 2006/07/18 07:28 |

# Woitach, Joseph

**From:** Hensle, Kristine (ASRC)
**Sent:** Monday, July 17, 2006 3:38 PM
**To:** Woitach, Joseph
**Subject:** The results have posted for SN 10/625882 seq ids 1 and an oligo search of 6, Search Acc.# 195497.

Dear Examiner Woitach,

I just checked SCORE and the results for your sequence search are there now. I would encourage you to use SCORE and see your results today.
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http://es/ScoreAccessWeb/GetItems.action?AppId=10625882&ItemType=4&VersionNo=1
After downloading files, use Microsoft Word to view, manipulate and print.
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| | |
|---|---|
| **From:** | Woitach, Joseph |
| **Sent:** | Thursday, July 13, 2006 10:11 AM |
| **To:** | STIC-Biotech/ChemLib |
| **Subject:** | sequence search request |

Hello,

For application: 10/625,882,
can you please do a search of SEQ ID NO: 1 (protein),
and oligo search of SEQ ID NO: 6, the corresponding nucleic acid sequence.

Thank you,
Joe

Joseph Woitach

(571) 272-0739

**Mailbox in Remsen 2C18**